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Wildland Fire on the Web:

fire.fws.gov
U.S. Fish and Wildlife Service
Fire Management
www.nifc.gov
National Interagency Fire Center

www.firewise.org
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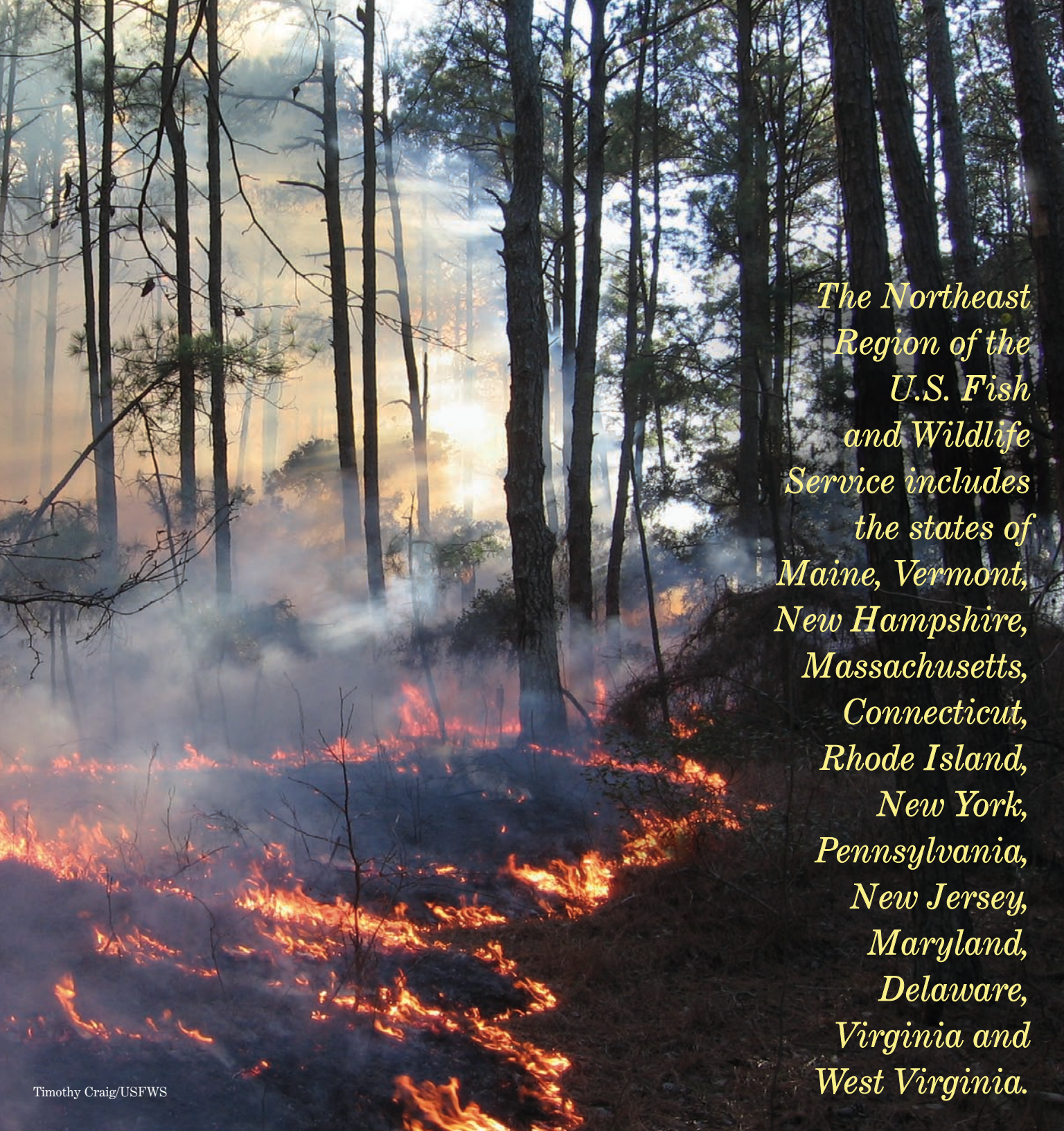
Fire Management in the Northeast

Keeping Fire on Our Side

Tom Mackenzie/USFWS



The Northeast Region of the U.S. Fish and Wildlife Service includes the states of Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island, New York, Pennsylvania, New Jersey, Maryland, Delaware, Virginia and West Virginia.

Timothy Craig/USFWS

Friend or Foe?

What comes to mind when you hear the word "fire"? Danger… excitement…comfort…power? People have a love-hate relationship with fire, and for good reason. Under the right conditions, fire can be useful, enjoyable and even necessary for survival. At the wrong time and place, however, it can be destructive and life-threatening.

Let's look at the two faces of wildland fire — the friendly and the fierce. Teams of fire experts use planned, or controlled, burning to improve wildlife habitat and reduce the risk of dangerous fires. Wildfire, on the other hand, can threaten life and property with little notice if it occurs near homes.

In the U.S. Fish and Wildlife Service, we work to make fire a positive force on and near national wildlife refuges and national fish hatcheries. You can do your part by fire-proofing your home and property. Together, we can keep fire on our side.

It's Only Natural

Fire was here long before we were. Although forests in northern New England rarely burned in the past, fire was a frequent, natural disturbance that revitalized the landscape of southern New England, coastal areas and the mid-Atlantic region for centuries.

This evergreen cone requires fire to release its seeds.

Gene Niemenen/USFWS

Bob Harris/USFWS

Fire is a natural disturbance in some ecosystems.

Blazing star

Bob Harris/USFWS

Fire has been a frequent force in forming natural areas in the Northeast, including pine barrens, oak openings, sandplain grasslands, blueberry barrens and pine pocosins. Pine barrens found from southern New England, through Long Island and into New Jersey are inhabited by pitch pine, scrub oak and other overstory species that are adapted to fire and may depend on it for survival. To release their seeds, the cones of many evergreen trees must be exposed to high temperatures to melt their waxy seals. Pine barrens are also home to rare and spectacular perennials such as blazing star, lupine and sandplain gerardia that need fire or other natural disturbances to reproduce.

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The endangered Karner blue butterfly depends on wild lupine, a pine barren plant.

Loblolly pine forests in the Delaware-Maryland-Virginia (Delmarva) region likely burned at fewer than ten year intervals before European

Photo courtesy of Ed Sambolin

Federally endangered sandplain gerardia

settlement, with fires often spreading into adjacent salt marshes. The southern Delmarva region is home to shortleaf pine, pond pine and pitch pine forests species that readily re-sprout following fire. Virginia may have historically had the nation's northernmost stands of longleaf pine, a tree adapted to fire returning every 1 to 5 years.

The Great Dismal Swamp in Virginia, most of which is now a national wildlife refuge, contains pond pine forests and a type of bog called pocosin, characterized by evergreen shrubs. Both of these habitats have been maintained for millennia by frequent lightning-caused wildfires.

Oak-hickory forests, found throughout the eastern U.S., rely on fire to control competing plant species. Oaks are resistant to fire and benefit from nutrients returned to the soil during a burn. Fire stimulates new sprouts in shagbark hickory.

Much as fire teams do today, Native Americans historically used fire to maintain a diversity of habitats that attracted game species such as elk, deer, turkey and grouse. They also set fires to clear land for agriculture, drive game and open up the forest understory for easier traveling.

Does Less Fire Mean More Danger

When Europeans arrived, the landscape in much of the East featured open stands of trees and scattered grasslands that had been shaped by frequent, low-intensity fires. As settlement increased, however, so did wildfire suppression.

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Without fire to control woody vegetation, grasslands became shrublands, and, eventually, dense forests. Non-native plant species arrived and thrived, while native vegetation declined. Although wildfires were less common, they became more intense and destructive as they were fueled by abundant shrubs and downed timber.

In 1825, the Miramichi fire burned 5 million acres in Maine and New Brunswick, Canada, leaving 160 people dead and 15,000 homeless. A drought in 1947 contributed to fires throughout southern Maine that consumed more than 200,000 acres and damaged or destroyed 13 communities. A series of 37 major

Controlled burns, such as the one pictured at Back Bay National Wildlife Refuge, simulate wildfire in a controlled and safe environment.

Timothy Craig/USFWS

fires in New Jersey pine barrens in April 1963 burned 186 homes and killed seven people.

Recent population trends have set the stage for more fire-related dangers. Many people are leaving cities and making their homes near wild places. Public safety officials and natural resource managers are concerned about natural areas where homes are interspersed with undeveloped land, creating a volatile fire situation.

The Sunrise Fires of 1995 on Long Island, New York, burned within miles of New York City and sent a clear message that wildfire is not confined to wild places. In 2007, a National Guard flare set off a large wildfire that consumed more than 13,000 acres of the New Jersey pinelands and forced the evacuation of hundreds of residents. As more people choose to live in rural areas, safely managing fire on the natural landscape is becoming more difficult and more crucial.

Burning for Wildlife and People

Each year, U.S. Fish and Wildlife Service specialists use controlled burns as an efficient tool to restore and maintain wildlife habitat on national wildlife refuges. In so doing, they also create a safer environment for refuge neighbors by reducing hazardous conditions.

Controlled burns create open areas that protect nesting terns and other migratory birds from predators.

Photo courtesy of Catherine J. Hibbard

Our firefighters are highly trained professionals.
Catherine J. Hibbard/USFWS

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We use fire to maintain grasslands where bobolinks nest.

Controlled burning improves habitat for many wildlife species. Burning marshes removes invasive, non-native species, such as common reed, and creates open water for waterfowl to rest and feed. Fires maintain and revitalize grasslands, eliminating shrubs and young trees and spurring new growth. Many songbirds, some of which are becoming rare, need grasslands for feeding and nesting. Endangered Delmarva fox squirrels and red-cockaded woodpeckers rely on fire to maintain their pine forest habitats. Our highly trained fire specialists conduct controlled burns on coastal islands to remove non-native vegetation for nesting seabirds.

Controlled burning benefits human and wildlife communities. Regular burning removes dead vegetation that can feed a dangerous wildfire. Burning on national wildlife refuges creates safety buffers that protect adjacent homes and property from fires that start elsewhere. Careful burning of stands of common reed reduces the risk of an unplanned and unwelcome fire.

Our fire specialists work closely with local governments and fire

The safety of people always comes first.

Catherine J. Hibbard/USFWS

Timothy Craig/USFWS

We safely manage fire near communities in the densely populated region.

departments to ensure burns are conducted with human safety as top priority. When needed, refuge firefighters respond to off-site wildfires to protect people and property.

Fire teams take steps before burning to increase the effectiveness and safety of controlled burns. They mow or plow around edges of burn areas creating fire breaks that help contain the flames. They cut lush vegetation and allow it to dry and thin dense or fire-resistant plants so fires will burn more completely.

In the Northeast, we face special challenges in using controlled burns. The region's climate, with its high humidity and abundant rain, restricts the number of days suitable for burning. Many national wildlife refuges in the Northeast Region are relatively small and located near urban areas. The density of homes and businesses complicates burning. Smoke generated by fires can reduce visibility and cause health problems for some people. Many states have strict air quality laws.

National wildlife refuges in the region also have a lot of non-native and fire-resistant vegetation. In these situations, fire may not be an appropriate tool. We often use other techniques, such as mowing or thinning, or chemical applications, instead of fire. In some cases, a combination of treatments may be used such as cutting trees and brush followed by a burn.

Safety Comes First

A controlled burn is a carefully planned and executed event. Long before a match is struck, fire teams complete a unit-specific burn plan, outlining the tracts of land to be managed. They establish fire breaks to prevent an escaped fire and carefully choose days when weather conditions will help control the flames while still allowing an effective burn. Air temperature, humidity, wind speed and direction, and vegetation moisture must all be within safe limits. If they are not, teams reschedule the burn or use other methods to improve the habitat.

On the day of the burn, the fire team assembles at the site with specialized equipment. After confirming that weather conditions meet the requirements, the team initiates a small test fire to ensure the fire is behaving as expected. If all looks

Fire teams carefully plan and manage controlled burns.

Tom Mackenzie/USFWS

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Fire is one way to fight invasive plants that choke out native vegetation.

good, the burn boss will instruct crew members to ignite the burn. The burn boss continues to supervise crew members and oversee burn progress until the project is completed.

Living with Fire

With the pleasure of living among natural areas comes the responsibility of preparing for a wildfire. Homeowners should take steps to protect themselves and their properties. From construction to maintenance, there are things you can do to make your home fire-resistant and increase the odds it will be standing once a fire has passed.

Be a FireWise homeowner:
Select a safe site— When buying or building your home, choose a level location, at least 30 feet from a ridge or cliff.

Create a defensible space— Remove dry grass, brush, dead leaves, and pine needles. Remove highly flammable plants and replace them with fire-resistive, high-moisture ones. Relocate wood piles away from structures. Keep trees pruned.

Make your roof, walls, and windows fire-resistant— If you have wood shakes, treat them with fire retardant or replace them with non-combustible materials such as asphalt shingles, tile, slate, metal, brick or stone. Replace plate glass with tempered.

Install screens on chimneys, vents, eaves, and gutters— Flying sparks can enter through any opening. Keep gutters free of leaves, pine needles, and debris.

Check all additional structures— Wooden decks, fences and trellises can act as fuses, leading fire to your house. Clean leaves and debris from under patios. Consider building ground-level terraces. Don't attach wooden fences to your house.

Be accessible— Make sure your driveway is well marked and wide enough for fire trucks to enter.

A Relationship Based on Respect

Fire can be an influential ally or an awesome opponent. Like any great power, it must be respected and managed with care. Thoughtful preparation and action by fire teams and private property owners can help keep its effects positive. When properly managed, we can keep fire safely on our side.

Timothy Craig/USFWS